

CLAIMS

1. Cosmetic composition comprising, in a cosmetically acceptable medium, a dispersion of
5 particles of a non-silicone-based grafted ethylenic polymer in a liquid fatty phase.

2. Composition according to the preceding claim, characterized in that the non-silicone-based grafted polymer predominantly contains a carbon-based
10 macromonomer and optionally contains up to 7% by weight of silicone-based macromonomer.

3. Composition according to Claim 1 or 2, characterized in that the non-silicone-based grafted polymer is free of silicone-based macromonomer.

15 4. Composition according to one of the preceding claims, characterized in that the non-silicone-based grafted ethylenic polymer comprises an ethylenic skeleton that is insoluble in the said liquid fatty phase and side chains covalently bonded to the
20 said skeleton, which are soluble in the said liquid fatty phase.

5. Composition according to one of the preceding claims, characterized in that the grafted ethylenic polymer is a grafted acrylic polymer.

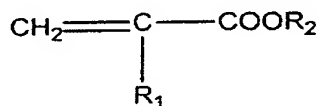
25 6. Composition according to one of the preceding claims, characterized in that the ethylenic polymer is dispersed in the absence of additional stabilizer at the surface of the particles.

7. Composition according to one of the preceding claims, characterized in that the grafted ethylenic polymer in dispersion is an acrylic polymer that may be obtained by free-radical polymerization in an organic polymerization medium:

- of at least one acrylic monomer, and optionally of at least one additional non-acrylic vinyl monomer, to form the said insoluble skeleton; and
- of at least one carbon-based macromonomer comprising a polymerizable end group to form the side chains, the said macromonomer having a weight-average molecular mass of greater than or equal to 200 and the content of polymerized macromonomer representing from 0.05% to 20% by weight of the polymer.

8. Composition according to the preceding claim, characterized in that the acrylic monomer is chosen, alone or as a mixture, from the following monomers, and also the salts thereof:

- (i) the (meth)acrylates of formula:



in which:

- R₁ denotes a hydrogen atom or a methyl group;
- R₂ represents a group chosen from:

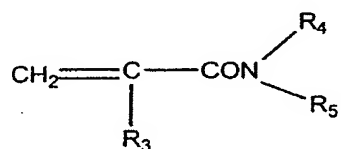
- a linear or branched alkyl group containing from 1 to 6 carbon atoms, the said group possibly comprising in its chain one or more hetero atoms chosen

from O, N and S; and/or possibly comprising one or more substituents chosen from -OH, halogen atoms (F, Cl, Br or I) and -NR'R'' with R' and R'', which may be identical or different, chosen from linear or branched C₁-C₄

5 alkyls; and/or possibly being substituted with at least one polyoxyalkylene group, especially polyoxyethylene and/or polyoxypropylene, the said polyoxyalkylene group consisting of a repetition of 5 to 30 oxyalkylene units;

10 - a cyclic alkyl group containing from 3 to 6 carbon atoms, the said group possibly comprising in its chain one or more hetero atoms chosen from O, N and S, and/or possibly comprising one or more substituents chosen from OH and halogen atoms (F, Cl, Br or I);

15 -(ii) the (meth)acrylamides of formula:



in which:

- R₃ denotes a hydrogen atom or a methyl group;

20 - R₄ and R₅, which may be identical or different, represent a hydrogen atom or a linear or branched alkyl group containing from 1 to 6 carbon atoms, which may comprise one or more substituents chosen from -OH, halogen atoms (F, Cl, Br or I) and -NR'R'' with R' and

25 R'', which may be identical or different, chosen from linear or branched C₁-C₄ alkyls; or

- R₄ represents a hydrogen atom and R₅ represents a 1,1-dimethyl-3-oxobutyl group;

-(iii) (meth)acrylic monomers comprising at least one carboxylic acid, phosphoric acid or sulfonic acid function, such as acrylic acid, methacrylic acid or acrylamidopropanesulfonic acid.

9. Composition according to Claim 7 or 8, characterized in that the acrylic monomer is chosen from methyl, ethyl, propyl, butyl and isobutyl (meth)acrylates; methoxyethyl or ethoxyethyl (meth)acrylates; trifluoroethyl methacrylate; dimethylaminoethyl methacrylate, diethylaminoethyl methacrylate, 2-hydroxypropyl (meth)acrylate, 2-hydroxyethyl (meth)acrylate; dimethylaminopropylmethacrylamide; and the salts thereof.

10. Composition according to one of Claims 7 to 9, characterized in that the acrylic monomer is chosen from methyl acrylate, methoxyethyl acrylate, methyl methacrylate, 2-hydroxyethyl methacrylate, (meth)acrylic acid and dimethylaminoethyl methacrylate, and mixtures thereof.

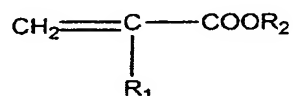
11. Composition according to one of the preceding claims, characterized in that the grafted acrylic polymer does not contain any additional non-acrylic vinyl monomer.

12. Composition according to any one of the preceding claims, characterized in that the non-

silicone-based grafted polymer comprises (meth)acrylic acid.

13. Composition according to any one of Claims 7 to 12, characterized in that the acrylic monomers comprise at least (meth)acrylic acid and at least one monomer chosen from:

- (i) the (meth)acrylates of formula:



10 in which:

- R₁ denotes a hydrogen atom or a methyl group;

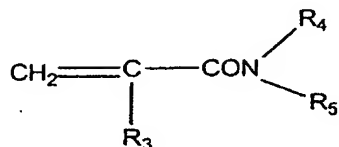
- R₂ represents a group chosen from:

- a linear or branched alkyl group containing from 1 to 6 carbon atoms, the said group possibly comprising in its chain one or more hetero atoms chosen from O, N and S; and/or possibly comprising one or more substituents chosen from -OH, halogen atoms (F, Cl, Br or I) and -NR'R'' with R' and R'', which may be identical or different, chosen from linear or branched C₁-C₄ alkyls; and/or possibly being substituted with at least one polyoxyalkylene group, especially polyoxyethylene and/or polyoxypropylene, the said polyoxyalkylene group consisting of a repetition of 5 to 30 oxyalkylene units;

25 - a cyclic alkyl group containing from 3 to 6 carbon atoms, the said group possibly comprising in its chain one or more hetero atoms chosen from O, N and S,

and/or possibly comprising one or more substituents chosen from OH and halogen atoms (F, Cl, Br or I);

-(ii) the (meth)acrylamides of formula:



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in which:

- R₃ denotes a hydrogen atom or a methyl group;
- R₄ and R₅, which may be identical or different, represent a hydrogen atom or a linear or branched alkyl group containing from 1 to 6 carbon atoms, which may comprise one or more substituents chosen from -OH, halogen atoms (F, Cl, Br or I) and -NR'R'' with R' and R'', which may be identical or different, chosen from linear or branched C₁-C₄ alkyls; or
- 15 - R₄ represents a hydrogen atom and R₅ represents a 1,1-dimethyl-3-oxobutyl group.

14. Composition according to any one of Claims 7 to 13, characterized in that the acrylic monomers comprise at least (meth)acrylic acid and at least one monomer chosen from C₁-C₃ alkyl (meth)acrylates.

15. Composition according to any one of Claims 12 to 14, characterized in that the (meth)acrylic acid is present in a content of at least 5% by weight, especially ranging from 5% to 80% by weight, preferably of at least 10% by weight,

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especially ranging from 10% to 70% by weight, and preferentially of at least 15% by weight, especially ranging from 15% to 60% by weight, relative to the total weight of the polymer.

5 16. Composition according to Claim 7, characterized in that the grafted acrylic polymer may be obtained by free-radical polymerization of one or more acrylic monomer(s) and of one or more additional non-acrylic vinyl monomer(s) and of the said carbon-
10 based macromonomer.

17. Composition according to the preceding claim, characterized in that the additional non-acrylic vinyl monomers are chosen from:

- vinyl esters of formula: $R_6\text{-COO-CH=CH}_2$
15 in which R_6 represents a linear or branched alkyl group containing from 1 to 6 atoms, or a cyclic alkyl group containing from 3 to 6 carbon atoms and/or an aromatic group, for example of benzene, anthracene or naphthalene type;
- 20 - non-acrylic vinyl monomers comprising at least one carboxylic acid, phosphoric acid or sulfonic acid function, such as crotonic acid, maleic anhydride, itaconic acid, fumaric acid, maleic acid, styrenesulfonic acid, vinylbenzoic acid or
25 vinylphosphoric acid, and the salts thereof;
- non-acrylic vinyl monomers comprising at least one tertiary amine function, such as 2-vinylpyridine or 4-vinylpyridine;

- and mixtures thereof.

18. Composition according to Claim 16 to 17, characterized in that the acrylic monomers represent from 50% to 100% by weight, preferably from 60% to 100% by weight and preferentially from 70% to 100% by weight of the mixture of acrylic monomers + optional non-acrylic vinyl monomers.

19. Composition according to one of Claims 7 to 18, characterized in that the carbon-based macromonomer comprises at one of the ends of the chain a polymerizable end group chosen from a vinyl group or a (meth)acrylate group, and preferably a (meth)acrylate group.

20. Composition according to Claim 19, characterized in that the carbon-based macromonomer is chosen from:

- (i) linear or branched C_8 - C_{22} alkyl acrylate or methacrylate homopolymers and copolymers containing a polymerizable end group chosen from vinyl or (meth)acrylate groups;

- (ii) polyolefins containing a polymerizable ethylenically unsaturated end group.

21. Composition according to Claim 19 or 20, characterized in that the carbon-based macromonomer is chosen from:

- (i) poly(2-ethylhexyl acrylate) macromonomers containing a mono(meth)acrylate end group and poly(dodecyl acrylate) macromonomers containing a

- mono(meth)acrylate end group; poly(dodecyl methacrylate) macromonomers; poly(stearyl acrylate) macromonomers containing a mono(meth)acrylate end group; poly(stearyl methacrylate) macromonomers
- 5 containing a mono(meth)acrylate end group;
- (ii) polyethylene macromonomers, polypropylene macromonomers, macromonomers of polyethylene/polypropylene copolymer, macromonomers of polyethylene/polybutylene copolymer, polyisobutylene
- 10 macromonomers, polybutadiene macromonomers, polyisoprene macromonomers, polybutadiene macromonomers, poly(ethylene/butylene)-polyisoprene macromonomers, these macromonomers containing a (meth)acrylate end group.
- 15 22. Composition according to one of Claims 19 to 21, characterized in that the carbon-based macromonomer is chosen from:
- (i) poly(2-ethylhexyl acrylate) macromonomers containing a mono(meth)acrylate end group and
- 20 poly(dodecyl acrylate) macromonomers containing a mono(meth)acrylate end group;
- (ii) poly(ethylene/butylene) methacrylate.
23. Composition according to one of the preceding claims, characterized in that the non-
- 25 silicone-based grafted polymer is chosen from the polymers obtained by polymerization:
- of methyl acrylate and of a polyethylene/polybutylene macromonomer containing a methacrylate end group, in

- particular in a solvent chosen from isododecane, isononyl isononanoate, octyldodecanol, diisostearyl malate or a C₁₂-C₁₅ alkyl benzoate);
- of methoxyethyl acrylate and of a polyethylene/poly-
5 butylene macromonomer containing a methacrylate end group, in particular in isododecane;
 - of methyl acrylate/methyl methacrylate monomers and of a polyethylene/polybutylene macromonomer containing a methacrylate end group, in particular in isododecane;
 - 10 - of methyl acrylate/acrylic acid monomers and of a polyethylene/polybutylene macromonomer containing a methacrylate end group, in particular in isododecane;
 - of methyl acrylate/dimethylaminoethyl methacrylate monomers and of a polyethylene/polybutylene
15 macromonomer containing a methacrylate end group, in particular in isododecane;
 - of methyl acrylate/2-hydroxyethyl methacrylate monomers and of a polyethylene/polybutylene macromonomer containing a methacrylate end group, in
20 particular in isododecane.

24. Composition according to one of Claims 7 to 23, characterized in that the macromonomer has a weight-average molecular mass of greater than or equal to 300, preferably greater than or equal to 500 and
25 more preferably greater than 600.

25. Composition according to one of Claims 7 to 24, characterized in that the macromonomer has a weight-average molecular mass (M_w) ranging from 300 to

100 000, preferably ranging from 500 to 50 000, preferentially ranging from 800 to 20 000, more preferentially ranging from 800 to 10 000 and even more preferentially ranging from 800 to 6000.

5 26. Composition according to one of Claims 7 to 25, characterized in that the polymerized carbon-based macromonomer represents from 0.1% to 15% by weight, preferably from 0.2% to 10% by weight and preferentially from 0.3% to 8% by weight, relative to
10 the total weight of the polymer.

27. Composition according to one of the preceding claims, characterized in that the liquid fatty phase comprises a liquid organic compound chosen from:

- 15 - liquid organic compounds having a global solubility parameter according to the Hansen solubility space of less than or equal to $18 \text{ (MPa)}^{1/2}$,
- monoalcohols having a global solubility parameter according to the Hansen solubility space of less than
20 or equal to $20 \text{ (MPa)}^{1/2}$, and
- mixtures thereof.

28. Composition according to any one of the preceding claims, characterized in that it comprises a volatile oil.

25 29. Composition according to the preceding claim, characterized in that it comprises a volatile oil chosen from isododecane, isodecane and isohexadecane.

30. Composition according to Claim 28 or 29, characterized in that the volatile oil is present in a content ranging from 1% to 70% by weight, preferably ranging from 5% to 50% by weight and preferentially ranging from 10% to 35% by weight, relative to the total weight of the composition.

31. Composition according to any one of the preceding claims, characterized in that it comprises a non-volatile oil.

32. Composition according to Claim 31, characterized in that the non-volatile oil is present in a content ranging from 1% to 80% by weight, preferably ranging from 5% to 60% by weight and preferentially ranging from 10% to 50% by weight, relative to the total weight of the composition.

33. Composition according to one of the preceding claims, characterized in that the liquid fatty phase is a non-silicone-based liquid fatty phase.

34. Composition according to Claim 33, characterized in that the non-silicone-based liquid fatty phase consists of at least 50% by weight of at least one non-silicone-based liquid organic compound chosen from:

- non-silicone-based liquid organic compounds with a global solubility parameter according to the Hansen solubility space of less than or equal to $18 \text{ (MPa)}^{1/2}$;
- liquid monoalcohols with a global solubility parameter according to the Hansen solubility space of

less than or equal to 20 (MPa)^{1/2}; and
- mixtures thereof.

35. Composition according to Claim 34,
characterized in that the non-silicone-based liquid
5 organic compound is chosen from non-silicone-based
liquid organic compounds with a global solubility
parameter according to the Hansen solubility space of
less than 18 (MPa)^{1/2}; liquid monoalcohols with a global
solubility parameter according to the Hansen solubility
10 space of less than or equal to 20 (MPa)^{1/2}; and mixtures
thereof.

36. Composition according to Claim 35,
characterized in that the non-silicone-based liquid
organic compound with a global solubility parameter
15 according to the Hansen solubility space of less than
or equal to 18 (MPa)^{1/2} is chosen from carbon-based
oils, hydrocarbon-based oils and fluoro oils, alone or
as a mixture; linear, branched and/or cyclic,
optionally volatile alkanes; esters and especially
20 linear, branched or cyclic esters containing at least 6
carbon atoms; ketones and especially ketones containing
at least 6 carbon atoms; ethers and especially ethers
containing at least 6 carbon atoms.

37. Composition according to Claim 35,
25 characterized in that the monoalcohols with a global
solubility parameter according to the Hansen solubility
space of less than or equal to 20 (MPa)^{1/2} are chosen
from aliphatic fatty monoalcohols containing 6 to 30

carbon atoms, the hydrocarbon-based chain not comprising any substitution group, and especially oleyl alcohol, decanol and linoleyl alcohol.

38. Composition according to one of Claims
5 33 to 37, characterized in that the silicone-based liquid fatty phase consists of less than 50% by weight of silicone-based liquid organic compounds with a global solubility parameter according to the Hansen solubility space of less than or equal to 18 (MPa)^{1/2}.

10 39. Composition according to Claim 38, characterized in that the silicone-based liquid organic compound comprises a volatile silicone oil.

40. Composition according to Claim 39, characterized in that the volatile silicone oil is
15 chosen from octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane, heptamethylhexyltrisiloxane, heptamethyloctyltrisiloxane, octamethyltrisiloxane and decamethyltetrasiloxane, and mixtures thereof.

20 41. Composition according to Claim 38, characterized in that the silicone-based liquid organic compound comprises a non-volatile silicone oil.

42. Composition according to Claim 41, characterized in that the non-volatile silicone oil is
25 chosen from non-volatile polydialkylsiloxanes; polydimethylsiloxanes comprising alkyl, alkoxy or phenyl groups, which are pendent or at the end of a silicone chain, these groups containing from 2 to 24

carbon atoms; phenyl silicones; polysiloxanes modified with fatty acids (especially of C₈-C₂₀), fatty alcohols (especially of C₈-C₂₀) or polyoxyalkylenes (especially polyoxyethylene and/or polyoxypropylene); amino polysiloxanes; polysiloxanes containing hydroxyl groups; fluoro polysiloxanes comprising a fluorinated group that is pendent or at the end of a silicone chain, containing from 1 to 12 carbon atoms, all or some of the hydrogen atoms of which are replaced with fluorine atoms; and mixtures thereof.

43. Composition according to one of Claims 33 to 37, characterized in that the non-silicone-based liquid fatty phase does not contain any silicone-based liquid organic compounds.

44. Composition according to one of the preceding claims, characterized in that the grafted polymer has a weight-average molecular mass (M_w) of between 10 000 and 300 000, especially between 20 000 and 200 000 and better still between 25 000 and 150 000.

45. Composition according to one of the preceding claims, characterized in that the particles of grafted ethylenic polymer have a mean size ranging from 10 to 400 nm and preferably ranging from 20 to 200 nm.

46. Composition according to one of the preceding claims, characterized in that the grafted ethylenic polymer is a film-forming polymer.

47. Composition according to one of the preceding claims, characterized in that the grafted ethylenic polymer is present in a solids content ranging from 1% to 70% by weight, better still from 5% to 60% by weight, preferably ranging from 6% to 45% and better still ranging from 8% to 40% by weight, relative to the total weight of the composition.

48. Composition according to one of the preceding claims, characterized in that the grafted polymer is such that when it is dispersed in a sufficient amount in the composition, this composition is capable of forming a deposit with a transfer index of less than or equal to 35%.

49. Composition according to one of the preceding claims, characterized in that the grafted polymer is such that when it is dispersed in a sufficient amount in the composition, this composition is capable of forming a deposit with a transfer index of less than or equal to 30%, preferably less than or equal to 25%, preferably less than or equal to 20%, preferably less than or equal to 15%, preferably less than or equal to 10% and preferably less than or equal to 5%.

50. Composition according to any one of the preceding claims, characterized in that it comprises at least one fatty substance that is solid at room temperature, chosen from waxes, pasty fatty substances and gums, and mixtures thereof.

51. Composition according to any one of the preceding claims, characterized in that it contains from 0.1% to 50% by weight and preferably from 1% to 30% by weight of waxes relative to the total weight of the composition.

52. Composition according to any one of the preceding claims, characterized in that it comprises a dyestuff.

53. Composition according to any one of the preceding claims, characterized in that it comprises a cosmetic ingredient chosen from additional film-forming polymers, vitamins, thickeners, gelling agents, trace elements, softeners, sequestering agents, fragrances, acidifying or basifying agents, preserving agents, sunscreens, surfactants, antioxidants, fibres, agents for preventing hair loss, eyelash care agents, antidandruff agents and propellants, or mixtures thereof.

54. Cosmetic composition according to any one of the preceding claims, characterized in that it is in the form of a paste or a stick.

55. Cosmetic composition according to any one of the preceding claims, characterized in that it is a lipstick.

56. Cosmetic composition according to any one of Claims 1 to 53, characterized in that it is a mascara.

57. Cosmetic composition according to any

one of the preceding claims, characterized in that it is in anhydrous form.

58. Cosmetic composition according to any one of Claims 1 to 56, characterized in that it
5 comprises an aqueous phase.

59. Cosmetic composition according to Claim 58, characterized in that the aqueous phase is present in a content ranging from 0.1% to 95% by weight and preferably ranging from 1% to 80% by weight relative to
10 the total weight of the composition.

60. Cosmetic composition comprising, in a cosmetically acceptable medium, a dispersion of particles of a non-silicone-based grafted ethylenic polymer in a liquid fatty phase and a pulverulent
15 dyestuff, especially in the form of pigments.

61. Composition according to the preceding claim, characterized in that the non-silicone-based grafted ethylenic polymer is in accordance with one of Claims 2 to 47.

20 62. Cosmetic assembly comprising:

a) a container delimiting at least one compartment, the said container being closed by a closing member; and

b) a composition placed inside the said
25 compartment, the composition being in accordance with any one of the preceding claims.

63. Cosmetic assembly according to Claim 62, characterized in that the container is at least partly

formed from at least one thermoplastic material.

64. Cosmetic assembly according to Claim 62, characterized in that the container is at least partly formed from at least one non-thermoplastic material,
5 especially from glass or metal.

65. Assembly according to any one of Claims 62 to 64, characterized in that, in the closed position of the container, the closing member is screwed onto the container.

10 66. Assembly according to any one of Claims 62 to 64, characterized in that, in the closed position of the container, the closing member is coupled to the container other than by screwing, especially by click-fastening, bonding or welding.

15 67. Assembly according to any one of Claims 62 to 66, characterized in that the composition is pressurized inside the container.

68. Assembly according to any one of Claims 62 to 66, characterized in that the composition is
20 substantially at atmospheric pressure inside the container.

69. Non-therapeutic cosmetic process for making up or caring for keratin materials, in particular the skin or the lips, comprising the
25 application to the keratin materials, in particular the skin or the lips, of a composition according to any one of Claims 1 to 61.

70. Non-therapeutic cosmetic process for

making up or caring for keratin fibres, in particular the eyelashes, comprising the application to the keratin fibres, in particular the eyelashes, of a composition according to any one of Claims 1 to 61.

- 5 71. Use of a composition according to any one of Claims 1 to 61, to obtain a transfer-resistant deposit, especially a makeup deposit, on keratin materials, in particular on the skin, the lips or keratin fibres.